

In the Claims

Please amend claims 40-55 and 61-63 to read as follows:¹

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40. (Thrice amended) A microelectronic device structure including an unannealed top electrode layer positioned on a top surface of a ferroelectric oxide film material, wherein said top surface and vicinity thereof of the ferroelectric oxide film material is substantially stoichiometrically complete in oxygen concentration.

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41. (Amended) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises an oxide perovskite or layered structure perovskite.

42. (Amended) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a material selected from the group consisting of lead zirconium titanate, barium and/or strontium titanates, and strontium bismuth tantalates.

43. (Amended) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a lead zirconium titanate material.

44. (Amended) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a barium and/or strontium titanate material.

45. (Amended) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a strontium bismuth tantalate material.

46. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode layer comprises a material selected from Pt, Pt oxides, Ir, Ir oxides, Pd, Pd oxides, Rh, Rh oxides, and compatible mixtures and alloys of the foregoing.

47. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode layer comprises a Pt material.

48. (Amended) A microelectronic device structure according to claim 40, wherein said top unannealed electrode layer comprises a Pt oxide material.
49. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode layer is formed of Ir.
50. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode layer comprises an Ir oxide material.
51. (Amended) A microelectronic device structure according to claim 40, wherein the unannealed top electrode layer is formed of Ir or IrO₂.
52. (Amended) A microelectronic device structure according to claim 40, wherein the unannealed top electrode is formed in an oxygen-enriched environment.
53. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode is formed of a metallic non-oxide material by sputtering in the presence of oxygen.
54. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode is formed of a noble metal that is formed by evaporation of a noble metal source material in the presence of oxygen.
55. (Amended) A microelectronic device structure according to claim 40, wherein the unannealed top electrode layer is formed of a noble metal by a chemical vapor deposition process that incorporates oxygen.
61. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode layer comprises Rh.

¹ Consistent with the requirements of 37 C.F.R. §1.121, a marked up version of the amended claims is contained in Appendix A hereof; a clean copy of all pending claims is contained in Appendix B hereof. Consistent with the holding of Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., et al., 535 U.S. ____ (2002), decided May 28, 2002, any amendments herein that hereafter are deemed to be narrowing amendments by a court of competent jurisdiction in a final unappealed or unappealable decision, are not intended to relinquish any scope of equivalents unforeseeable at the time of this amendment or that relate to aspects of the invention having only a peripheral relation to the basis for the amendment.

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62. (Amended) A microelectronic device structure according to claim 40, wherein said unannealed top electrode layer comprises a Rh oxide material.
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63. (Twice amended) A ferroelectric or high ϵ capacitor comprising:

a bottom electrode layer formed of a conductive material;

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a thin film of a ferroelectric oxide material positioned over the bottom electrode, wherein the thin film of ferroelectric oxide material has a top surface that is substantially stoichiometrically complete in oxygen concentration, wherein said ferroelectric oxide material comprises a material selected from the group consisting of lead zirconium titanate, barium and/or strontium titanates, and strontium bismuth tantalates; and

an unannealed top electrode layer positioned on the top surface of the thin film of ferroelectric oxide material, which is formed of a material selected from the group consisting of Ir, Ir oxide, Rh, Rh oxides and compatible mixtures and alloys thereof.
